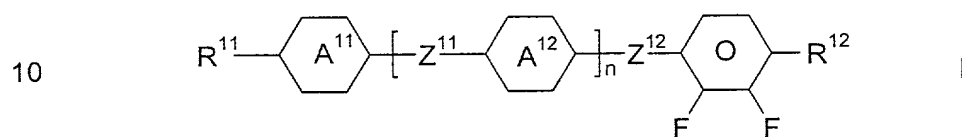


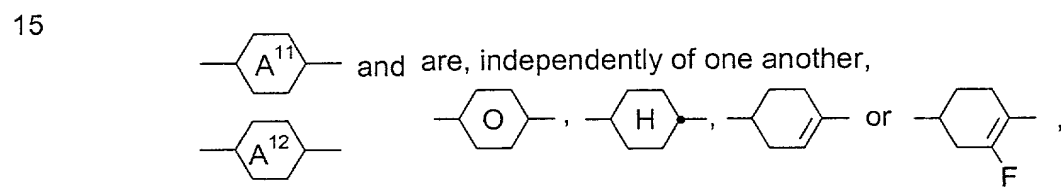
# Patent Claims

1. A nematic liquid-crystal medium, which comprises

5 a) a dielectrically negative, liquid-crystalline component A which comprises one or more dielectrically negative compounds of the formula I



in which



$R^{11}$  is alkyl having from 1 to 7 carbon atoms, alkoxy having from 1 to 7 carbon atoms or alkenyloxy having from 2 to 7 carbon atoms,

25  $R^{12}$  is alkyl or alkoxy having from 1 to 7 carbon atoms or alkenyl, alkenyloxy or alkoxyalkyl having from 2 to 7 carbon atoms,

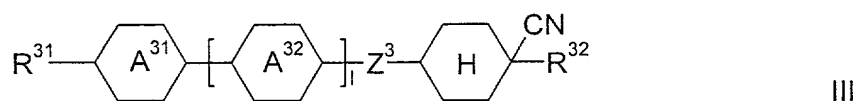
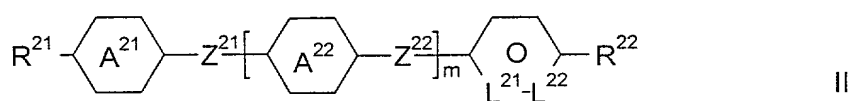
30 one of  $Z^{11}$  and  $Z^{12}$  is  $OCF_2$  or  $CF_2O$ , and the other is a single bond, and

$n$  is 0 or 1, and

35 b) a dielectrically negative, liquid-crystalline component, B and

- c) a dielectrically neutral, liquid-crystalline component C,  
and  
d) a dielectrically positive, liquid-crystalline component D.

2. A liquid-crystal medium of claim 1, wherein component B comprises one or more compounds selected from the group consisting of the compounds of the formulae II and III

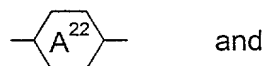
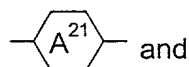


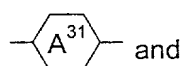
in which

$R^{21}$  is alkyl or alkoxy having from 1 to 7 carbon atoms or alkoxyalkyl, alkenyl or alkenyloxy having from 2 to 7 carbon atoms,

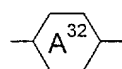
$R^{22}$  is alkyl or alkoxy having from 1 to 7 carbon atoms or alkoxyalkyl, alkenyl or alkenyloxy having from 2 to 7 carbon atoms,

$Z^{21}$  and  $Z^{22}$  are each, independently of one another,  $-\text{CH}_2-\text{CH}_2-$ ,  $-\text{CH}=\text{CH}-$ ,  $-\text{C}\equiv\text{C}-$ ,  $-\text{COO}-$  or a single bond,

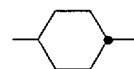




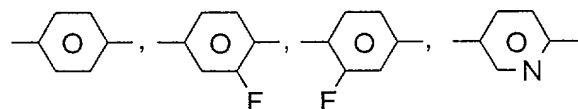
and



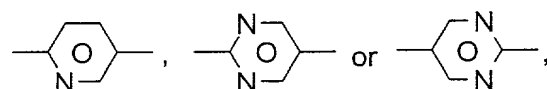
are each, independently of one another,



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$L^{21}$  and  $L^{22}$

are both C-F or one of the two is N and the other is C-F,

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m

is 0 or 1,

$Z^3$

is  $-\text{CH}_2-\text{CH}_2-$ ,  $-\text{CH}=\text{CH}-$ ,  $-\text{C}\equiv\text{C}-$ ,  $-\text{COO}-$  or a single bond,

20

$R^{31}$  and  $R^{32}$

are each, independently of one another, alkyl or alkoxy having from 1 to 7 carbon atoms or alkoxy-alkyl, alkenyl or alkenyloxy having from 2 to 7 carbon atoms, and

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is 1 or 2.

3. A liquid-crystal medium of Claim 2, which comprises one or more compounds of the formula II.

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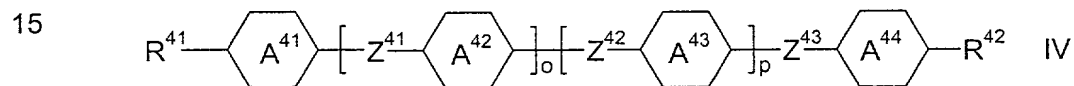
4. A liquid-crystal medium of Claim 2 which comprises one or more compounds of the formula III.

5. A liquid -crystal medium of Claims 1 which comprises a component C.

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6. A liquid-crystal medium of Claim 1, which comprises a component D.

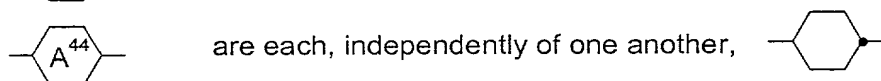
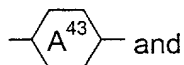
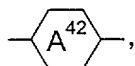
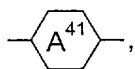
7. An electro-optical display comprising a liquid-crystal medium according of Claim 1.
- 5 8. A display according to Claim 7, which is an active matrix display.
9. A display according to Claim 7 which is an ECB or IPS display.
- 10 10. The liquid-crystal medium of claim 1, wherein  $R^{11}$  is alkyl, alkoxy, or alkenyloxy of Z to 4 carbon atoms and one of  $Z^{11}$  or  $Z^{12}$  is  $OCF_2$ .
11. The liquid-crystal medium of claim 5, wherein component C comprises at least one compound of the formula IV.



20 in which

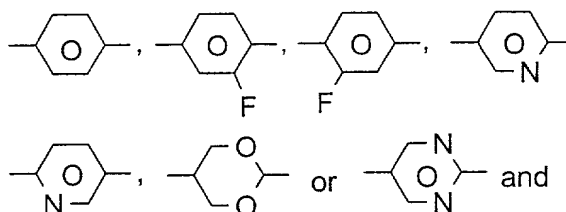
$R^{41}$  and  $R^{42}$  are each, independently of one another, as defined above for  $R^{21}$  in the case of the formula II,

25  $Z^{41}$ ,  $Z^{42}$  and  $Z^{43}$  are each, independently of one another,  $-CH_2CH_2-$ ,  $-CH=CH-$ ,  $-COO-$  or a single bond,



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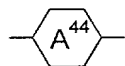
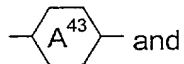
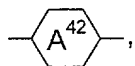
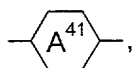


o and p, independently of one another, are 0 or 1,

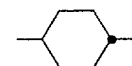
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12. The liquid-crystal medium of claim 6, wherein component D comprises at least one compound of the formula V.

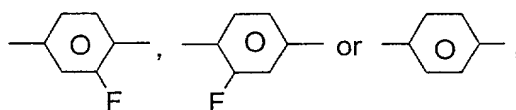
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are each, independently of one another,

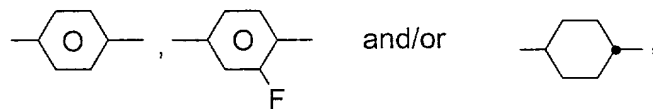


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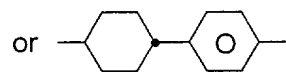
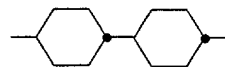
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and very particularly preferably at least two of these rings



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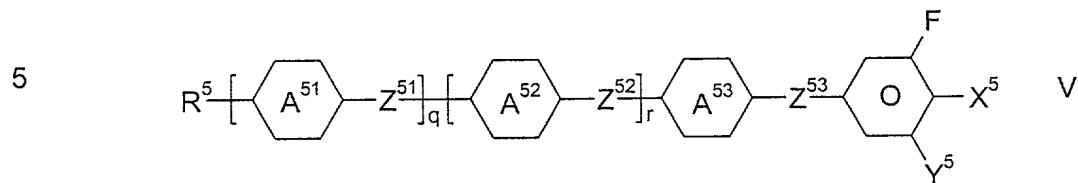
where two adjacent rings are very particularly preferably linked directly to one another, preferably



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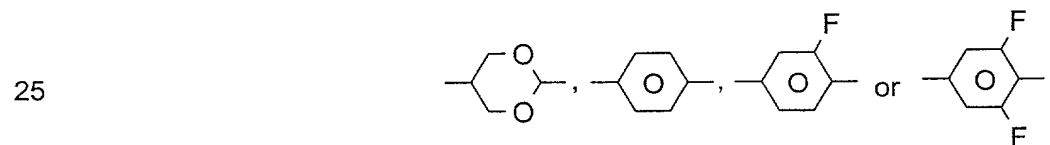
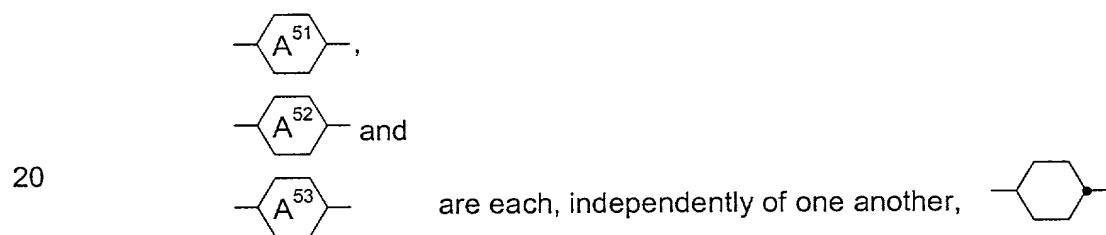
and optionally

d) one or more dielectric positive compound(s) of the formula V



10  $R^5$  is alkyl or alkoxy having from 1 to 7 carbon atoms, or alkoxyalkyl, alkenyl or alkenyloxy having from 2 to 7 carbon atoms,

15  $Z^{51}$ ,  $Z^{52}$  and  $Z^{53}$  are each, independently of one another,  $-CH_2-CH_2-$ ,  $-CH=CH-$ ,  $-C\equiv C-$ ,  $-COO-$  or a single bond,



30  $X^5$  is F,  $OCF_2H$  or  $OCF_3$ , and

$Y^5$  is H or F, preferably F in the case where  $X = F$  or  $OCF_2H$ , and

$q$  and  $r$  are each, independently of one another, 0 or 1.

35 In a further preferred embodiment, the medium comprises one or more dielectrically negative compounds of the formula VI.

5 13. The liquid-crystal medium of claim 1, which comprises 5% to 85% by weight of component A, 5% to 85% by weight of component B, 0 to 50% by weight of component C and 0 to 40% by weight of component D.

14. A. display according to claim 8, which further comprises a this film transistor or varistor.

10 15. A display according to claim 7, which further comprises a three-pole switching element.

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